

## **What is claimed is:**

**[Claim 1]** 1. A connection device capable of mixing a red–green–blue (RGB) graphics signal and a luminance–bandwidth–chrominance (YUV) video signal comprising:

a graphics transforming module for transforming the RGB graphics signal into a YUV graphics signal; and  
a mixing module connected to the graphics transforming module for receiving the YUV video signal and the YUV graphics signal from the graphics transforming module, the mixing module outputting a YUV signal after mixing the YUV video signal and the YUV graphics signal.

**[Claim 2]** 2. The connection device of claim 1 further comprising:

a first switching module for receiving the RGB graphics signal, the first switching module including:  
a first output for outputting the RGB graphics signal to the graphics transforming module; and  
a second output for outputting the RGB graphics signal to the mixing module;  
a video transforming module connected to the mixing module for transforming the YUV video signal into an RGB video signal;  
a second switching module for receiving the YUV video signal, the second switching module including:  
a first output for outputting the YUV video signal to the video transforming module; and  
a second output for outputting the YUV video signal to the mixing module; and  
a basic input–output system (BIOS) for selecting one of the two outputs of the first switching module to output the RGB graphics signal and for selecting one of the two outputs of the second switching module to output the YUV video signal;  
wherein the mixing module is capable of receiving the RGB graphics signal and the RGB video signal, and outputting an RGB signal after mixing the RGB graphics signal and the RGB video signal.

**[Claim 3]** 3. The connection device of claim 2 wherein the BIOS controls the outputs of the first and second switching modules based on an output interface connected to the mixing module.

**[Claim 4]** 4. The connection device of claim 3 wherein the output interface is a TV output interface.

**[Claim 5]** 5. The connection device of claim 3 wherein the output interface is a liquid crystal display (LCD) output interface.

**[Claim 6]** 6. The connection device of claim 3 wherein the output interface is a cathode ray tube (CRT) output interface.

**[Claim 7]** 7. The connection device of claim 3 wherein the output interface is a plasma display panel (PDP) output interface.

**[Claim 8]** 8. A method for mixing an RGB graphics signal and a YUV video signal comprising:

inputting an RGB graphics signal into a first switching module;

inputting a YUV video signal into a second switching module;

when detecting that an output interface is the output interface receiving a YUV signal, a control signal is utilized for controlling the first switching module to transform the RGB graphics signal into a YUV graphics signal, and mixing the YUV graphics signal and the YUV video signal of the second switching module for generating the YUV signal; and

when detecting that an output interface is the output interface receiving an RGB signal, the control signal is utilized for controlling the second switching module to transform the YUV video signal into an RGB video signal, and mixing

the RGB video signal and the RGB graphics signal of the first switching module for generating the RGB signal.